Willamette River Federal Navigational Channel Operation and Maintenance Sediment Characterization Project

Howard Cumberland, Taku Fuji, Ph.D., Keith Kroeger,
Hart Crowser, Inc.

Tim Sherman, US Army Corps of Engineers, Portland

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General Objectives

- Rank Dredge Material Management Units (DMMUs)
- Ensure Residual Sediments Do Not Cause Increased Environmental Risk
- Assist RSET in the Development of Freshwater Screening Levels

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Specific Objectives

- Characterize approximately 1,052,600 cubic yards of Channel sediments proposed for dredging to determine appropriate disposal options
- Conduct supplemental biological testing to aid in the RSET effort to revise the DMEF

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Sampling Strategy

DMMUs were ranked as “low-moderate” based on recent sediment sampling activities.

Samples were grouped into 19 DMMUs.
DMMUs 1, 2, and 4 - 17 were represented by three composited core samples
DMMUs 3 and 18 were represented by two composited core samples
DMMU 19 was represented by one core sample

Collected 53 sediment core samples

Samples were collected to the maximum removal depth of – 42 feet CRD

An aliquot of homogenized sediment was archived from each of the 53 individual core locations in case it becomes necessary to characterize the DMMUs on a finer scale.

Strategy (continued)

A sample from the first foot below the proposed dredging depths (-42 to -43 ft CRD) was collected and archived for possible future analysis of the newly exposed sediments.

Reference sediment samples representing three grain sizes (coarse-grained, medium-grained, and fine-grained) was collected for possible biological testing.

For each DMMU, sediment was collected for possible bioassay testing.

For DMMUs 2, 10, and 15, sediment was collected for possible bioaccumulation testing based on reason to believe from previous sampling.

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Chemical Testing

- TOC;
- Metals (Sb, As, Cd, Cu, Hg, Ni, Ag, and Zn);
- TBT in filtered porewater;
- Pesticides/PCBs;
- Semivolatile organics (including phenols, polycyclic aromatic hydrocarbons [PAHs], phthalates, and miscellaneous compounds); and
- Selected chlorinated hydrocarbons.

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Bioassay Testing

- 10-Day Amphipod Survival Test (*H. azteca*);
- 28-Day Amphipod Survival and Growth Test (*H. azteca*);
- 10-Day Midge Survival and Growth Test *(C. tentans*); and
- 20-Day Midge Survival and Growth Test (*C. tentans*).

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Bioaccumulation Testing

- 28-Day Bioaccumulation Test *Lumbriculus variegetas*; and
- 28-Day Bioaccumulation Test *Corbicula fluminea*.

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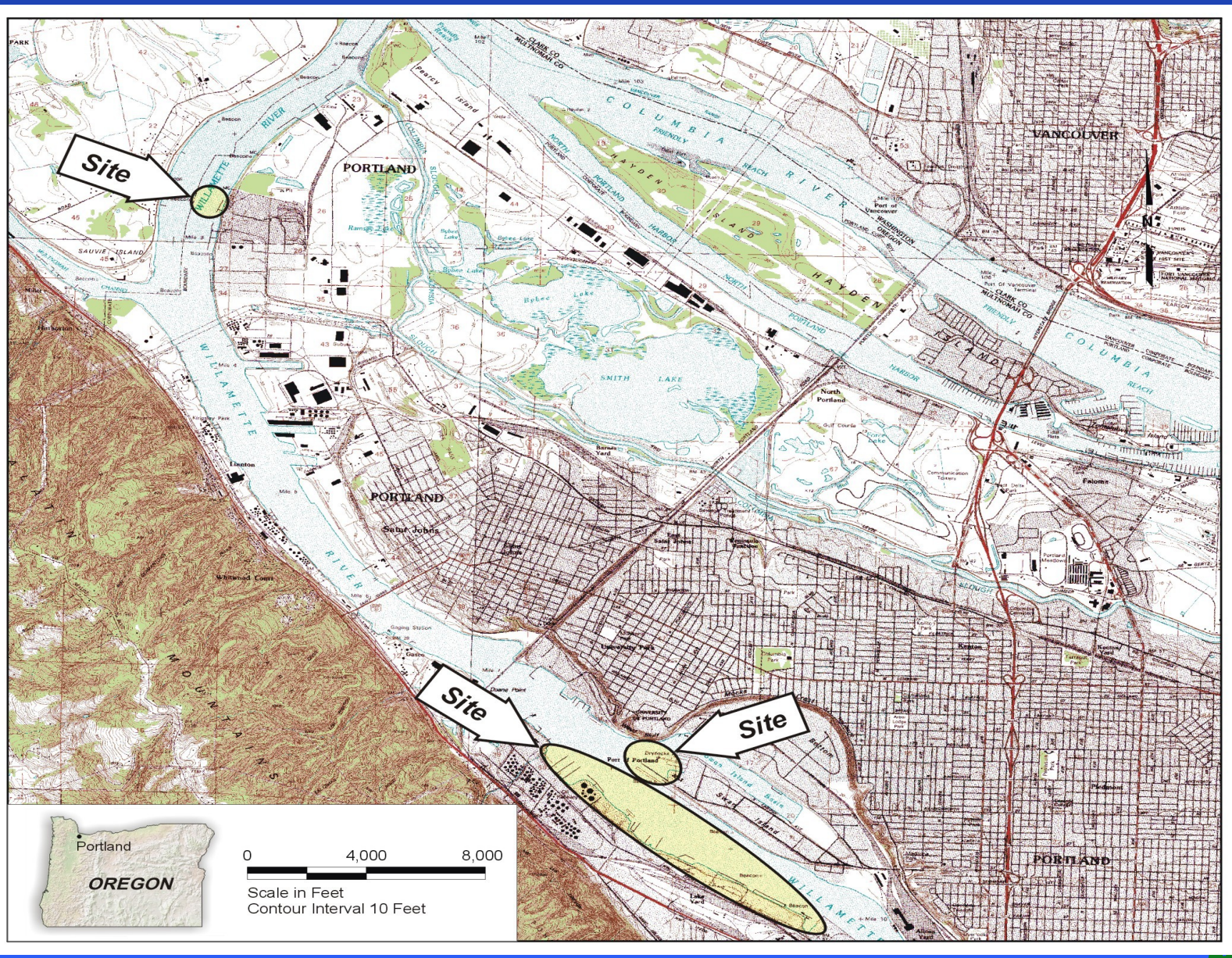

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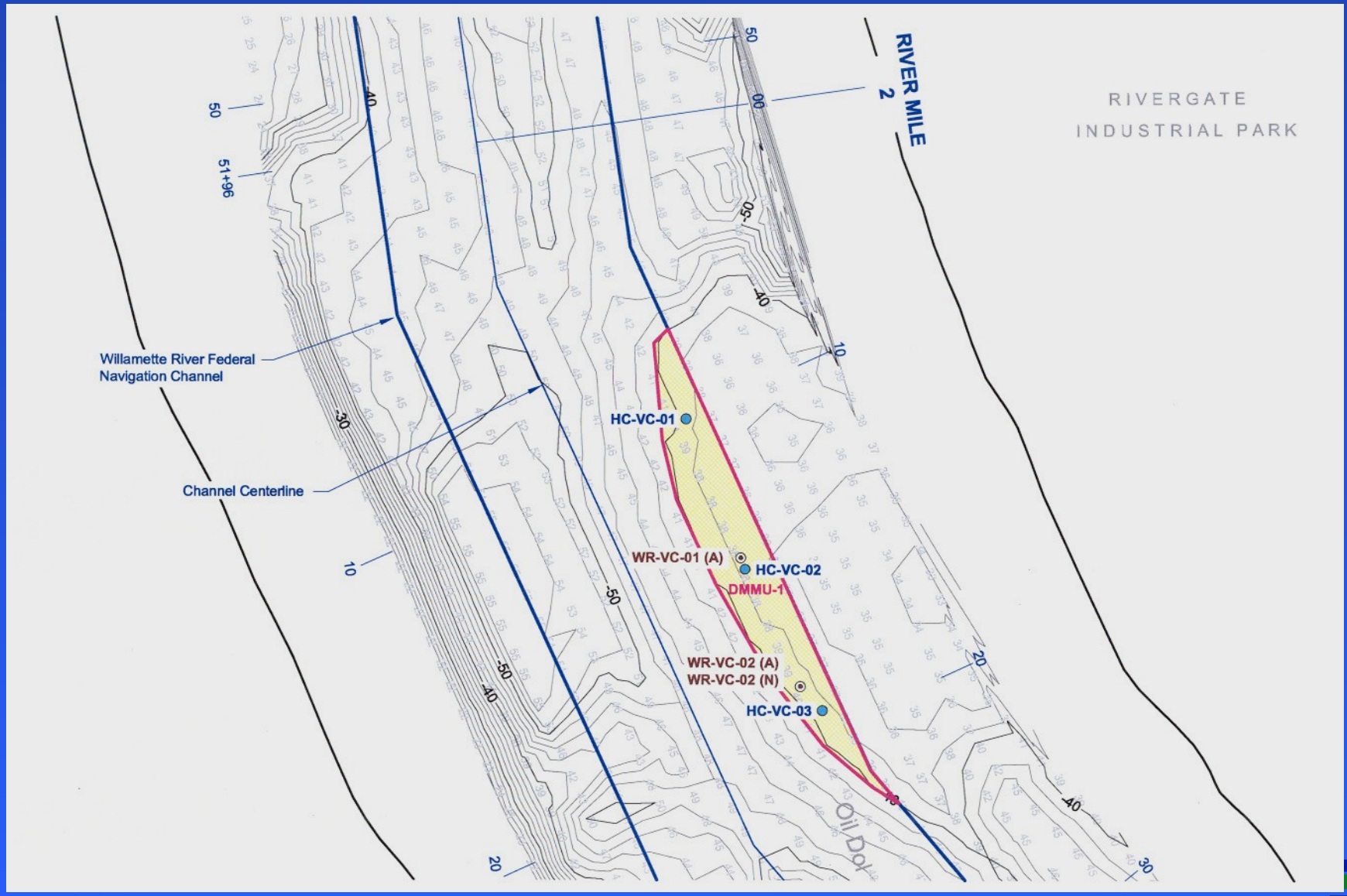

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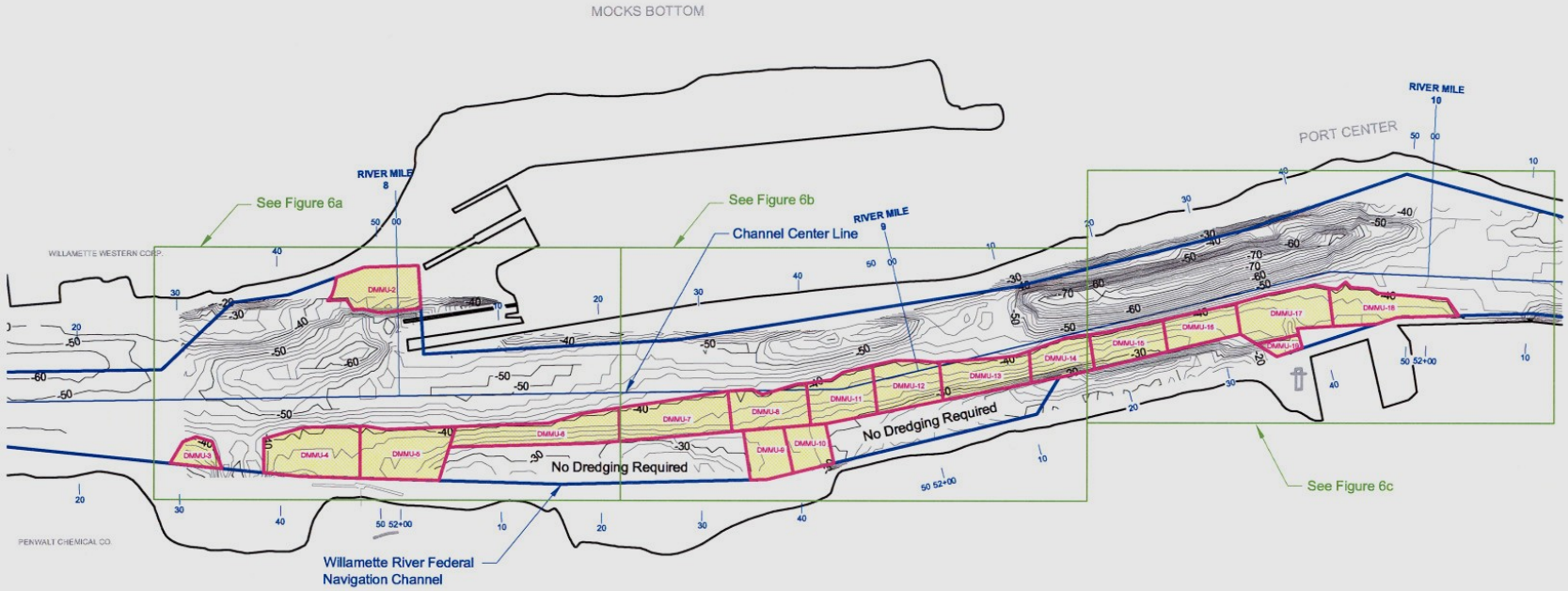
MOCKS BOTTOM
PORT CENTER
RIVER MILE 8
RIVER MILE 9
RIVER MILE 10
See Figure 6a
See Figure 6b
See Figure 6c
Channel Center Line
WILLAMETTE WESTERN CORP.
PENWALT CHEMICAL CO.
DMMU-2
DMMU-3
DMMU-4
DMMU-5
DMMU-6
DMMU-7
DMMU-8
DMMU-9
DMMU-10
DMMU-11
DMMU-12
DMMU-13
DMMU-14
DMMU-15
DMMU-16
DMMU-17
DMMU-18
No Dredging Required
No Dredging Required
Willamette River Federal
Navigation Channel

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Wet Sieving to Determine GS for Reference Site Sediment C

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